

当講座の瀬尾助教（横浜市北部病院）が、シンガポールで行われた ISUOG World Congress 2018（2018年10月20日～24日）で発表いたしました。

演題名は“Twin-Reversed Arterial Perfusion Sequence Using High-Intensity Focused Ultrasound” “収束超音波による TRAP シークエンスの胎児治療”です。

Twin reversed arterial perfusion sequence (TRAP sequence; トラップシークエンス) は無心体双胎 (acardiac twin) ともよばれ、一絨毛膜双胎にのみ起こる特殊な病態です。

現在 TRAP シークエンスの胎児治療は、母体腹壁から子宮内へ穿刺を行い治療するのが一般的ですが、穿刺に伴う合併症や治療制限が常に存在します。

母体腹壁から超音波を照射する事で非侵襲的に治療を行う、収束超音波を用いた最新の研究成果です。

Twin-Reversed Arterial Perfusion Sequence Using High-Intensity Focused Ultrasound Therapy

Objectives: To clinically evaluate high-intensity focused ultrasound (HFU) for fetal therapy of the twin reversed arterial perfusion (TRAP) sequence.

Methods: Six patients underwent HFU therapy five patients during the first trimester and one patient during the second trimester. In this study, two types of HFU systems were used. The first-generation HFU system comprised a basal transducer and continuous exposure pattern. The second-generation HFU system comprised a coaxial transducer and sequential exposure pattern. The first-generation apparatus was used for four cases and the second-generation apparatus was used for two cases.

Results: For three patients, blood vessels to the acardiac twin had been occluded. Two patients resulted in in utero fetal demise despite vessel occlusion. The total fetal survival rate was 67%, and despite vessel occlusion. The total fetal survival rate was 67%, and despite vessel occlusion. The total fetal survival rate was 67%, and despite vessel occlusion. The total fetal survival rate was 67%, and despite vessel occlusion.

Conclusions: HFU does not require uterine puncture for fetal therapy. In this study, there were no fetal complications, such as bleeding, rupture of membranes, and infection. HFU therapy might be one of the methods for TRAP sequence treatment in early pregnancy.

Case	Age (BW Term)	GPA	MCGA	Survival
1	23 19	MCGA	26 + 0 1G	13 + 5
2	32 20	MCGA	14 + 1 1G	17 + 5
3	34 21	MCGA	13 + 2 1G	18 + 0
4	36 20	MCGA	16 + 3	16 + 3
5	40 20	MCGA	14 + 6 2G	14 + 5 2G
6	32 22	MCGA	14 + 5 2G	14 + 5 2G

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